

KODIAK ELECTRIC ASSOCIATION, INC.

POSITION GUIDE

POSITION TITLE: Substation Electrician – Communications and Controls Engineering	
DEPARTMENT: Engineering	REPORTS TO: Substation Superintendent/System Engineer
FLSA STATUS: Full-Time Union Position	STARTING SALARY: Hourly Rate: \$60.60
APPROVED BY: _____ <i>President/CEO</i>	_____ <i>Date</i>
APPROVED BY: _____ <i>Department Manager</i>	_____ <i>Date</i>
RECEIVED BY: _____ <i>Employee</i>	_____ <i>Date</i>

I. OBJECTIVE

To provide for the integrity, reliability, and protection of transmission and distribution substation systems supplying power to KEA members.

II. REPORTING RELATIONSHIPS

- A. **Reports to:** Substation Superintendent/System Engineer
- B. **Supervises:** None

III. RESPONSIBILITIES AND AUTHORITIES

- A. Provides daily input into a substation equipment preventative maintenance system.
- B. Assists the Substation Superintendent/System Engineer in developing a yearly substation maintenance and relay testing schedule.
- C. Assists the Substation Superintendent/System Engineer in developing a yearly meter testing program.
- D. Reads indicating, recording, and revenue meters.

- E. Maintains records on each substation and its equipment.
- F. Installs and removes instrument transformers and recording or indicating meters of all types and makes load and voltage tests when assigned.
- G. Performs protective relay tests, settings, adjustments, and repairs as needed, and maintains records of all such tests and repairs.
- H. Tests and repairs recording, indicating, and revenue meters, and maintains records of all such tests and repairs.
- I. Assists in the operations, troubleshooting, and repair of the Power Line Carrier, SCADA equipment, fiber optic, network and communications equipment.
- J. Installs, inspects, operates, and maintains all substation equipment including but not limited to transformers, switches, protective relays, and metering equipment.
- K. Makes all types of single and polyphase transformer installations when assigned.
- L. Patrols transmission and distribution lines. Inspects, operates, and maintains related equipment, line switching, sectionalizing, and fusing as directed.
- M. Performs maintenance and repair work on high voltage substation equipment including oil, vacuum, SF6, circuit breakers (138Kv, 12.5Kv), 480 volt circuit breakers, disconnect switches, load tap changes, regulators, and transformer protective devices.
- N. Assists in the preparation of and observes tag-out procedures, performs substation switching on as-needed basis, and develops or executes other safety practices and procedures which have been or will be adopted by KEA.
- O. Performs upkeep/maintenance of substation grounds, fences, buildings, or other equipment.
- P. Constructs and maintains system in accordance with NESC, NEC, State of Alaska Construction Code, and RUS specifications.
- Q. Responds to trouble calls in the KEA system as directed.
- R. Operates automotive equipment when assigned; complies with all traffic laws, safety rules, regulations, and safe practices while operating vehicle assigned, and looks out for the safety of the vehicle, occupants, and general public at all times.
- S. Ensures that trucks, tools, and working equipment assigned are properly used and kept in good working order, and that any required repairs are promptly reported to

the Equipment Mechanic, Substation Superintendent/System Engineer, or other assigned personnel.

- T. Operates radio equipment and abides by the Federal Communications Commission's rules and regulations.
- U. Maintains a minimum of inventory to effectively carry out routine maintenance and works with the Expeditor/Warehouseman in the purchase of parts and equipment.
- V. Attends and participates in the department safety meetings and job briefings. Observes and practices all NESC and NEC codes, OSHA requirements, APPA Safety Manual guidelines, KEA safety rules, and other federal, state, and local safety and health standards that require compliance by electric cooperatives.
- W. Technical work which may involve:
 - 1. Port Lions Generation Plant
 - 2. Terror Lake Hydroelectric Facility
 - 3. Kodiak Diesel Generation Plants
 - 4. FESS (Flywheel Energy Storage System)
 - 5. BESS (Battery Energy Storage System)
 - 6. Facility maintenance
 - 7. Generation Equipment Communication
 - 8. Pillar Mountain Wind Farm
- X. Such other duties as may be assigned by the Substation Superintendent/System Engineer.
- Y. The above items are not intended to be all-inclusive of the essential functions or requirements of this type of work as they may be subject to change based on the operating necessity of the Association.

IV. RELATIONSHIPS

All employees are required to comply with all provisions outlined in the KEA Policy Manual and the KEA/IBEW Labor Agreement.

A. Internal

- 1. Reports to the Substation Superintendent/System Engineer.
- 2. Cooperates with Plant Electrician, SCADA Technician, Meter Technician, Powerplant Mechanic, Plant Operator Technician and Dispatchers in accomplishing a job efficiently and safely.

3. Responsible for contact and cooperation with the Manager of Operations and all line crew personnel in accomplishing a job efficiently and safely.

B. External

1. Maintains good member relations by providing prompt, courteous, and professional technical service, and develops increased understanding and acceptance of the cooperative.
2. Cooperates with contract crews, offering advice and assistance where necessary.

Disclaimer Statement: This position guide has been written to reflect management's assignment of essential functions and does not constitute a written or implied contract of employment. It does not prescribe or restrict the tasks that may be assigned. KEA reserves the right to revise or change job duties and responsibilities. *Note: The Position Specification document is a separate document from this Position Guide, but has been attached to this document for ease in reading.*

KODIAK ELECTRIC ASSOCIATION, INC.

POSITION SPECIFICATIONS

POSITION TITLE: SUBSTATION ELECTRICIAN – COMMUNICATIONS AND CONTROLS ENGINEERING

I. EDUCATION/EXPERIENCE

- A. High School diploma or equivalent required. Must be a graduate of an approved substation apprenticeship program or have a valid State of Alaska Certificate of Fitness as a Journeyman Electrician and be a graduate of an approved Electrical Wireman/Electrician/Meterman apprenticeship. Minimum of three years of experience in the electrical field required.
- B. Must have a valid Alaska Driver's License and be insurable under KEA's present insurance rate structure. An annual consent for a release of driving record is required.
- C. Must have current First Aid and CPR card and confined space training within 90 days after employment.

II. SKILLS, ABILITIES AND KNOWLEDGE

- A. Must be able to perform all required duties of a qualified Journeyman Electrician. Must be familiar with National Electric Safety Code, National Electric Code, OSHA rules and regulations, APPA Safety Manual and other applicable safety codes, RUS List of Materials, and RUS construction specifications.
- B. Must be familiar with underground and overhead generation, transmission, and distribution substation systems, and have the ability to construct, operate, and repair electrical substation systems. Must have demonstrated knowledge of substations and substation equipment, substation protective devices, protective relays, substation and revenue metering, high voltage circuit breakers (oil, vacuum, SF6, and air), fiber optics, wiring diagrams, one line diagrams, schematic diagrams, and logic diagrams.
- C. Must have mathematical development sufficient to be able to use practical applications of fractions, percentages, ratios, proportions, or other math skills normally required in mechanical and electrical work.
- D. Must have developed language skills to be able to speak, write, hear, and understand the English language, to include reading and interpreting blueprints,

work orders and technical manuals, and be able to complete time cards, reports, data tickets, logs, or similar paperwork following prescribed formats as explained by supervisor. Must have the ability to communicate courteously, consistently, and accurately with consumers, fellow employees, supervisors, and contractors.

- E. Must have basic computer operational skills and experience, and the ability to adapt to SCADA computer control systems.
- F. Must have the ability to work independently and with limited supervision.

III. OPERATING GUIDELINES

Demonstrates high-level skill in the performance of his/her trade or profession. Understands how the business works and stays current with the changes occurring in both the industry and the personal job. Visibly demonstrates commitment to continual improvement in processes and self-development. Demonstrates an ability to look at the “big picture” for processes rather than an individual task. Understands the costs to do business and views self as a resource in controlling business costs by working efficiently and using cost effective materials and equipment. Understands that value and safety are important aspects of the business. Is a team player working to make the cooperative responsive, proactive, and of value to the community.

IV. WORKING CONDITIONS

- A. Physical Effort and Dexterity
 - 1. Must have full use of hands; position requires sitting, standing, walking, climbing stairs, climbing ladders, balancing, stooping, kneeling, crouching, crawling, reaching, handling, fingering, feeling, hearing, seeing, talking, and understanding.
 - 2. In particular, must be capable of, and confident in, climbing vertical steel ladders to a height in excess of 265 feet when accessing wind turbine generating compartments, working outside the nacelle and entering the hub, and must complete wind turbine climbing and rescue training within 90 days after employment. Must be comfortable working in confined spaces such as the nacelle unit of a wind turbine.
 - 3. Must have the physical ability to lift, carry, and work with heavy tools and parts, and be able to access and work in vault and basements and on scaffolding. Must be able to lift 100 pounds maximum with frequent lifting and/or carrying of objects weighing up to 50 pounds; requires exerting 50 to 100 pounds of force frequently and/or 10 to 20 pounds of force constantly to move objects. Walking and carrying of equipment and materials is required; repairs are sometimes made in the field. Must be physically able to climb and descend several flights of stairs several times

per shift and be able to maneuver around very heavy operating equipment without effort.

4. Must be able to take high levels of stress at times, and work on shift type work for twelve (12) hour periods, seven (7) days per shift at times (dispatch schedule). Must be prompt for work when scheduled.
5. Must be able to see and recognize equipment problems and have corrected vision to 20/40 in one eye, and must be able to hear telephones, radios and malfunctioning equipment.

B. Environmental Conditions

1. Work around solvents, fuel, oils, and industrial cleaners and paints is required.
2. Must be able to perform inside and outside work in all types of weather with no effective protection from weather, including but not limited to rain, high winds, temperature in excess of 80 degrees Fahrenheit or below -30 degrees Fahrenheit, large amounts of snow (using snowshoes) long periods of darkness, etc.
3. Travel by motor vehicle, aircraft, helicopter, and boat is required. Must be able to fly as a passenger in fixed wing and helicopters and be able to board and ride in boats.

C. Overtime Requirements

All KEA hourly employees are expected to work widely varying amounts of unscheduled overtime during unit restoration activities or scheduled overtime required to accomplish special projects. Such overtime could range from working a normal 10-hour day to a 16-hour scheduled workday during turbine and generator overhauls. Employees will be compensated at appropriate rates for such time worked as specified in the collective bargaining agreement between KEA/IBEW.

Note: Complete achievement of certain of the above specifications may not be required if, in the opinion of the KEA hiring supervisor, a particular candidate possesses significant offsetting characteristics, such as past accomplishments, experience, education, or estimate of future potential. Should an applicant be deficient in certain educational achievements, offsetting experience may be substituted or vice versa.